

Modeling and Simulation

Discussion

The Marine Corps is aggressively exploiting the use of modeling and simulation across the spectrum of military missions in the operations, experimentation, training, acquisition and analysis functional domains. Increasing emphasis is being placed on employing simulators and advanced training devices and technologies to enhance Marine Corps Total Force operational and training effectiveness. A number of the key activities and initiatives actively being pursued are described here.

□ **Training Simulator Interoperability** is a critical element in enabling Marines to conduct collective combined arms training in a virtual environment. The Marine Corps' MAGTF Federation Object Model (FOM) provides a foundation for allowing future or upgraded training simulators to interoperate with each other toward this end.

□ **Course of Action Assessment (COAA)** is an important step in the deliberate planning process for conducting an operational mission. The Course of Action Assessment Support Tools (COAAST) project is designed to provide simulation supported course of action analysis capabilities for commanders' operational staffs. The intent of this capability is to speed up the decision making process and is planned to be either on site with the staff or available as a reach-back capability.

□ **Constructive Training Simulations** play an important role in training Marine Corps operational staffs and units. The Marine Corps is a committed partner in the development of the next generation DoD training simulation, the Joint Simulation System (JSIMS). JSIMS will be the primary large scale training simulation used by the Marine Corps. The Marine Corps also uses the Joint Conflict and Tactical Simulation (JCATS), a high resolution model for conducting tactical level training of battalion-size and smaller units.

□ **M&S Science** is concerned with discovering new methods and algorithms to more accurately model and simulate physical phenomena and complex human and organizational behaviors. The Office of Naval Research leads the effort to conduct research in this field..

□ **Simulation Based Acquisition** uses new approaches of modeling and simulation in systems acquisition which promise development and fielding of higher quality products with significant life cycle savings.

□ **Joint Programs** The Marine Corps is fully engaged in joint programs such as the Joint Simulation System (JSIMS), the Joint Warfare System (JWARS), and the Joint Modeling and Simulation System (JMASS). To ensure our investment complements and builds upon DoD efforts, the Marine Corps is an active participant in Joint Staff and OSD development and implementation of M&S technologies and capabilities. Our investment strategy is founded upon leveraging joint and international development efforts.

Marine Corps Position

The Marine Corps is transitioning its training, operations, analysis, and acquisition technologies toward interoperability with the Joint M&S environment. Implementation will require continued Service and DoD investment. A significant portion of our FY99 investment was the development of Marine Corps unique capabilities within the JSIMS effort. Our continued confidence to invest in M&S efforts is ensured by joint development with DoD, industry, academia, and our Allies.